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ABSTRACT

Students' abilities in manipulation and control of syntax may be increased through a sequence of instruction involving the use of exercises termed "Non-Sentence Practice," "Nonsense-Sentences Practice," and "Syntactic Patterning Practice." The final step in the instruction sequence is to make the syntactic exercises pertinent to students' writing by having them apply these lessons to their standard expository assignments. To determine whether or not students have matured in their use of written syntax, several methods may be used: clause length, subordination indices, type of subordination and unit length, and indices of sentence-combining transformations. Methods such as incidence of usage errors and length of sentences are not as valuable. The most useful index is length of T-Unit (Minimal Terminal Unit) since it is easy to count, simple to use, objective, and demonstrates a clear progression toward maturity in syntactical control. (FL)

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# DEVELOPING AND MEASURING MATURE SYNTAX

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The instructional aim to be discussed in this paper is the facilitation of increased control, flexibility, and complexity of students' syntax; discussion of this aim will be followed by an exploration of a number of methods for determining whether or not that aim has been met. Before students are provided with exercises to develop their syntactic control, it is advisable for them to gain an awareness of the knowledge of syntax implicit in their use of language. The teacher then may capitalize on a basis linguistic skill that is learned implicitly as language is learned; if students gain conciousness of their use of this skill they realize that intentional control of syntactic patterning further refines a skill that otherwise remains at a less effective, subliminal level. This initial instructional approach is based on Chomsky's designation between "performance" and "competence" in linguistic skills (Chomsky, 1965); specifically, the introductory devices to be delineated employ students' basic competence levels in order to develop their performance levels. The discrepancy between an individual's ability to recognize and understand correct syntax and his/her inability to employ mature syntax can be made useful. As students extend conscious control of their competence they are able to develop increased facility with syntactic patterns in their written performance.

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Presenting Syntax in an Accessible Manner to Motivate Students

Students may achieve marked improvement in vocabulary, and in organizational and rhetorical techniques, but still employ only an elementary level of syntax. The consequence of this is the impediment of fluidity and complexity of students' expression. The subtle inter-relational subordination and modification of ideas made possible by mature syntactic patterns are denied to students who can wield only simple arrangements. Students often acknowledge this sense of limitation in talking about their writing; the possibility of increased facility in the communication of difficult ideas serves as a self-motivation for students as they begin to involve themselves with practice in syntax.

A presentation we have termed "Non-Sentence Practice" serves to elicit students' awareness of implicit syntactic knowledge. When presented with a sentence disorganized into an a-syntactic pattern as in the following, students note the crucial influence that syntax exerts in ordering words into sensible relationships: Ex. 1) "time threw and pieces crowd the all shouted of wine whistling up the then ring bull and keeping bottles into bread down leather cushions the." It is common for students to attribute "meaning" or semantic value only to the lexicon of a sentence, since they can define easily the words in the sentence. As students grapple to make sense of a dis-ordered sentence they recognize that the syntactic order is as significant to meaning as the individual words, and in fact is essential to semantic value. After students have attempted to re-order the words themselves into a meaningful order, provide them the corrected version of the non-sentence: "Keeping up whistling, the crowd shouted all the time, and threw pieces of bread down into the

bull ring, then cushions and leather wine bottles" (In our Time, Hemingway).

Reinforcing Understanding of Mature Syntax

To reinforce syntactic understanding and to aid the transfer of implicit knowledge into explicit practice, an exercise termed "Nonsense-Sentences Practice" is useful. In this exercise, students observe the direct inverse of the previous exercise; this practice offers sentences with correct syntax, but without recognizable words: Ex. 2) "Twas brillig, and the slithy toves/Did gyre and gimble in the wabe... The Jabberwock...Came whiffling through the tulgey wood./ And burbled as it came" ("Jabberwocky," Lewis Carroll). The syntactic pattern is emphasized by the employment of nonsense words. Students recognize that they can decipher more "meaning", more interchange and relational interaction, from these nonsense words than from the disordered sentence of easily recognizable words in Ex. 1. The further advantage of this exercise is that students can learn grammar, and practice recognizing parts of speech, more effectively than in ordinary sentences. They recognize the subject and predication, the modifying phrases and clauses, the subordination of sentence elements, by being forced to address only the grammatical relationships without known nouns, verbs, etc. acting as markers to guide them; thus increased sensitivity to purely grammatical interchange and syntactic patterning is reinforced, readying students for actual practice in syntactic patterning.

Transfer of Competence into Performance: Syntactic Patterning

A brief session of syntactic rearrangement provides the initial step into syntactic patterning. The same nonsense-sentence demonstrates how the syntactic units can be shifted and rearranged: Ex. 3) "Burbling

as it came, the Jabberwock came whiffling through the tulgey wood." Students may experiment with their own nonsense-sentences by writing and rearranging them. Lest skeptical instructors feel that this exercise is somewhat whimsical or outlandish, it is useful to remember that when students encounter new words in their reading, or attempt to employ unfamiliar vocabulary in their writing, they experience a situation very similar to this encounter with nonsense-sentences,

"Syntactic Patterning Practice" is one of the developmental exercises that should be emphasized in instruction. After being presented word definitions, examples, and recognition-practice of the four kinds of sentences (detailed explanations of phrases and clauses is essential ), students will begin syntactic transformations. The instructor should first provide an example of, and ask them to write, a kernal sentence, or syntactic unit:

Ex. 4: The storm brewed ominously

Then add a prepositional unit:

Ex. 5: The storm brewed ominously/over the desert.

Then add modification.

Ex. 6: Throughout the night/ the storm brewed ominously/over the desert.

Then add a second independent clause:

Ex. 7: Throughout the night the storm brewed ominously over the the desert/and concerned inhabitiants began to evacuate the area.

Then add a subordinate clause:

Ex. 8: Throughout the night the storm brewed ominously over the desert; the concerned inhabitants began to evacuate the area when hurricane warnings were broadcast.

Students should repeat this transformational sequence beginning with a new kernal unit each time until they gain facility in adding syn-

tactic units, and flexibility in rearranging them.

Syntactic Embedding and Recombining in Students' Stylistic Development

The final application necessary to make syntactic exercises pertinent to students' regular writing activities is to have them apply these lessons to their standard expository assignments. At this stage they should employ their own syntactic patterns. (It may be advisable to provide an exemplary sequence of sentences that can be recombined and embedded. See Sentence Combining, W. Strong, 1973 for numerous examples.) Students should attempt to combine and rearrange the syntactic units within sentences for more subtle and fluid ordering of ideas; further, series of shorter, broken sentences should be embedded and recombined into more complex syntactic arrangements. By employing their own past written work as a basis for syntactic exercises, students transfer their previous practice with syntactic patterning to their own stylistic performance, thus effecting direct development in their ongoing writing effort.

Indices of Maturity in Written Syntax

The authors feel that this sequence of exercises presents a pedogically sound method for encouraging maturity of written syntax. Some instructors may desire to evaluate changes in their students' syntactic performance; others may desire to explore information on the development of written syntax further. This portion of the paper is devoted to an exploration of methods for determining whether or not students have "matured" in their use of written syntax. Methods include those which relate to bringing grammatical usage under control,

those which relate to increasing length of syntactic subdivisions, those which explore extent and type of subordination, and those based on sentence-combining transformations.

Usage Errors as an Index

Usage errors are a traditional but invalid method of determining syntactic maturity. First, there is a large subjective component on any determination of what is to be considered acceptable usage (Pooley, 1974), so that classification becomes rather arbitrary. In addition, students developing their writing skills are constantly bringing new potential sources of flexibility to their basic syntactic structures. It is possible that a low rate of usage errors reveals failure to incorporate new, more mature syntactic strategies; a high rate may accompany new syntactic experiments which will result in increases syntactic control. The total language competence in the student's repertoire may not be revealed by his performance at any particular time; many students, when asked to "reread and edit" papers for sentence and/or usage errors, can and will correct those errors; the students are not increasing their competence, but their performance.

Clause Length as an Index

Another traditional measure for assessing increasing complexity and maturity of language use is mean number of words per clause. Recent research indicates that clause length can be used as a measure of growth, but that the lengthening occurs with "glacial slowness" in the early grades (Hunt, 1970. Harrell. 1957). Nevertheless, as students move through the grades they do write longer clauses (Hunt, 1965, 1970; O'Donnell. 1968; O'Donnell et al, 1967, from their data computed by Hunt).

Extent and Type of Subordination as Indices

Exploring extent and type of subordination as indices for syntact-

ic maturity is based on the rationale that changes occur due to the development of ability to think in a different and more mature manner about the relations between various concepts being considered, as well as due to the development of ability to control syntactic structures. Subordination allow the writer tc explore more complex propositions with a more coherent organization. Hunt (1965) proposes a ratio of total clauses (subordinate and main) to main clauses as a measure of extent of subordination. This and other subordination counts have shown distinct increases with increase in grade level (Dauterman, 1970; Frogner, 1933; Harrell, 1957; LaBrant, 1933; McCarthy, 1946; O'Donnell, et al, 1967). The proportion of each type of subordination also changes over time, with an increase in number of noun, adjectival, and adverbial clauses (Harrell, 1957; Hunt, 1965; 1970; LaBrant, 1933).

Sentence Length as an Index

Sentence length as an index of maturity, while apparently useful, suffers form issues both of definition and of application. Researchers have not always defined sentences by the same "rules" (O'Donnell, Griffin, & Norris, 1967). Hunt's definition of "whatever the writer puts between a capital letter and a period or other terminal mark" solves this definitional problem, but leaves open the question of how to deal with discourse abounding with sentence fragments, such as that of fourth grade students who tend to run together what would otherwise be considered many sentences without punctuation and often even without coordination. Because of these problems, the tendency for sentences to lengthen over the grades is obscured; the most immature writers, who fail to recognize and control basic syntactic divisions, will receive the highest score on this index of maturity

(Hunt, 1965).

Sentence-Combining Transformations as an Index

The rationale for use of mean number of sentence-combining transformations is based on theories of transformational grammer. Braun and Klassen (1973) measured syntactic maturity by a method "essentially of reversing the normal generation of a sentence...(and identifying) the frequency and complexity of transformations employed in producing a sentence...(p. 315). The use of sentence-combining transformations does increase over time, but Hunt (1970) notes that it is not just the increase in use of sentence-combining constructions which characterizes older writers, it is also the use of a wider variety of such transformations.

T-Unit Length as an Index

The T-unit, a nickname for "Minimal Terminal Unit", was defined by Hunt as "one main clause plus any subordinate clause or non-clausal structure that is attached to or embedded in it...cutting a passage into T-units will be cutting it into the shortest units which it is grammatically allowable to punctuate as sentences. In this sense, it is minimal and terminable" (Hunt, 1970, p. 4). He feels that T-unit length is better than single indices such as average length of main clauses or increase in number of subordinate clauses, because it "preserves all the subordination achieved by the student, and all his coordination between words and phrases and subordinate clauses," but devalues the coordination between clauses which makes fourth grade writing immature. Hunt also reports that there was complete agreement of identification of T-units "so long as the judges were confronted with well-formed sentences either declarative or interrogative." A large number of studies using T-unit length have verified its

ability to show evidence of maturation (Braun & Klassen, 1973; Bryant, 1971; Dauterman, 1970; Hunt, 1965; O'Donnell et al 1967). We must conclude with O'Donnell et al that T-unit length is indeed a "simple, valid indicator of development of syntactic control."

## SUMMARY

This paper has attempted to provide a sequence of instruction which may result in increasing students' abilities in manipulation and control of syntax. It has also attempted to provide an overview of methods which may enable the instructor to determine the effects on student writingof instruction in syntactic flexibility. Evidence from this review implies that a number of measures may provide clues about the maturation in control of written syntax: clause length, subordination indices, type of subordination and unit length, indices of sentence-combining transformations. Other methods, such as incidence of usage errors and length of sentences, are not as valuable. Certainly the index presently most useful to the teacher assessing change and maturation in written syntax is length of T-unit since it is easy to count, simple to use, objective, and demonstrates a clear progression toward maturity in syntactical control.

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